

# EMCal Analysis Update 8/11

# Second Energy Scan Runs

Energy	Runs
1 GeV	2298
2 GeV	2265, 2266, 2267, 2268
3 GeV	2260, 2261, 2262
4 GeV	2253, 2255
6 GeV	2243, 2244, 2245, 2247
8 GeV	2233, 2234, 2292, 2293, 2294, 2295
12 GeV	2275, 2276, 2277
16 GeV	2279, 2280, 2281, 2282, 2283

Production: Production\_0428\_MIP\_set2\_Cosmic

Cuts:

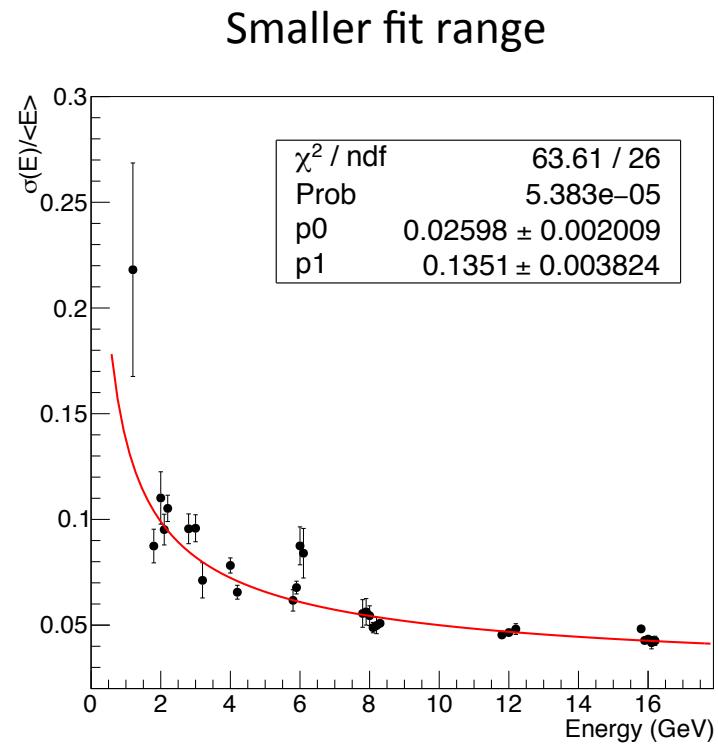
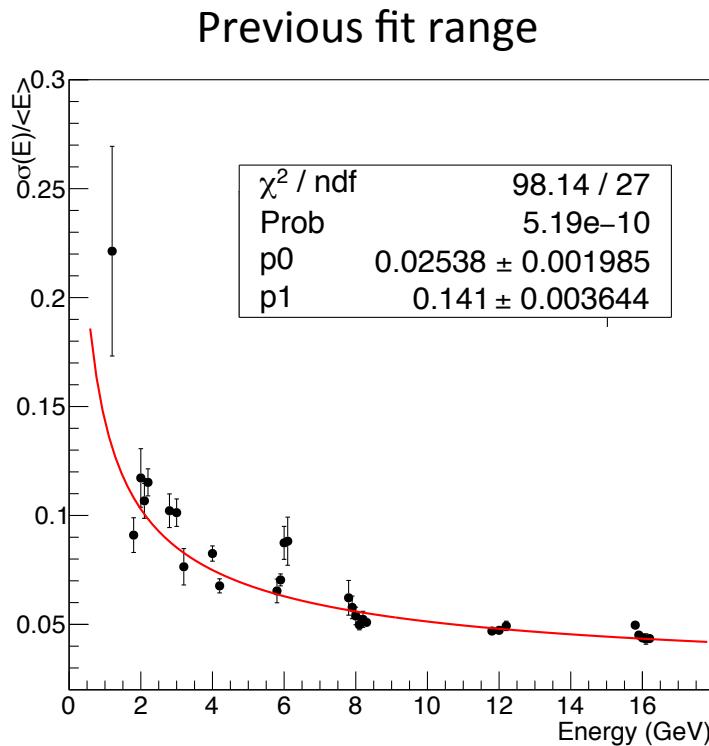
- Cherenkov:  $\text{abs}(\text{C2\_inner\_t} + \text{C2\_outer\_t}) > 100$
- Veto:  $\text{Veto1\_t} < 15 \text{ || Veto2\_t} < 15 \text{ || Veto3\_t} < 15 \text{ || Veto4\_t} < 15$
- Horizontal hodoscope:  $\text{abs}(\text{Horz\_HODO\_R5\_t}) > 30 \text{ || } \text{abs}(\text{Horz\_HODO\_R6\_t}) > 30$
- Vertical hodoscope:  $\text{abs}(\text{Vert\_HODO\_R3\_t}) > 30$

# Fitting

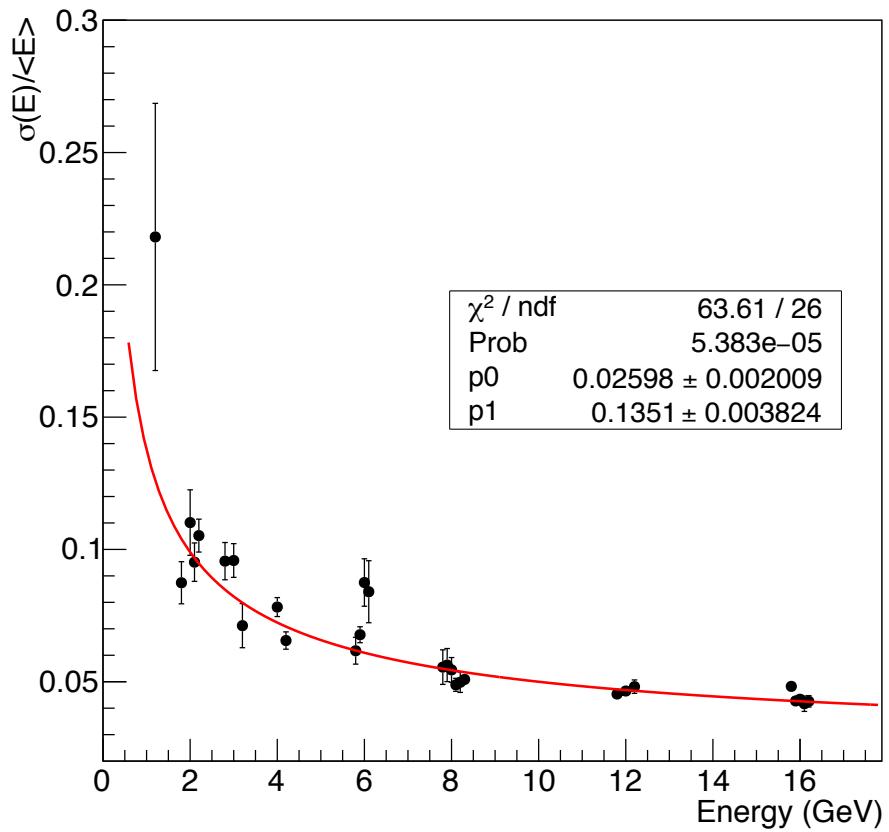
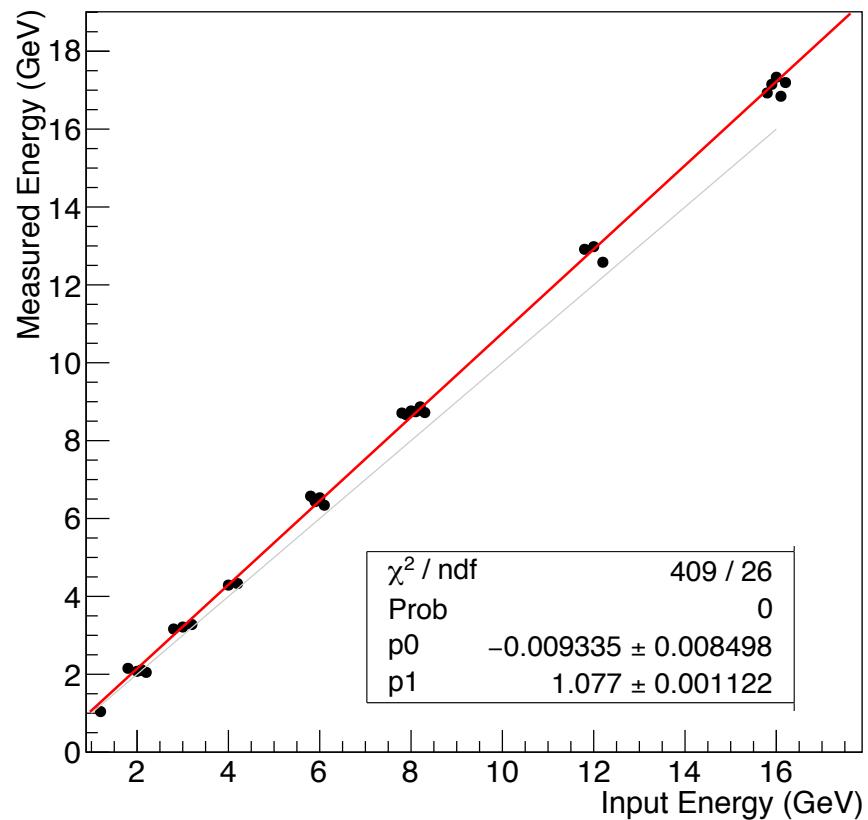
- First we fit the histograms in the range of  $(0.5*\text{input}, 2*\text{input})$  where input is the input energy of the run
- The fit parameters (mean and sigma) from this initial fit are then used to create a new range for the final fit
- Previously this new range was:  
 $(\text{mean}-1.9*\text{sigma}, \text{mean}+3*\text{sigma})$

# Smaller Fit Range

- Making the fit range smaller (now: mean-1.5\*sigma, mean+2.5\*sigma) results in a better resolution



# Linearity and Resolution



# Questions

- Other energy scans
- E-shower calibration
- Temperature correction
- THP analysis

Quick THP analysis linearity and resolution

